

In the Claims

The claims are amended as follows:

- 1 1. (Previously amended) A brake controller system comprising:
  - 2       brakes located on a towed vehicle;
  - 3       a brake activator for applying force to said brakes;
  - 4       a brake control unit in communication with said brake activator, said brake
  - 5       control unit having a CPU, said brake control unit adapted to receive electrical energy from a
  - 6       battery;
  - 7               said CPU in electrical communication with a bus that is in communication with at
  - 8       least said brake activator such that said CPU provides a variable brake activation signal to said
  - 9       brake activator;
  - 10              a pressure sensor for providing pressure information to said CPU, said pressure
  - 11       sensor measuring a pressure within a master brake cylinder of a towing vehicle; and
  - 12              a voltage booster adapted to receive electrical energy from said battery and
  - 13       provide boosted voltage to said brake activator.
- 1 2. (Original) The brake controller system according to claim 1 wherein said brakes are
- 2       electric brakes.
- 1 3. (Canceled)

1       4. (Original) The brake controller system according to claim 1 wherein:  
2               said brake activator is comprised of magnets; and  
3               a current sensor for maintaining constant amperage to the towed vehicle brakes.

1       5. (Original) The brake controller system according to claim 4 wherein:  
2               said CPU adjusts a signal for brake activation, based at least partially on data  
3               from said current sensor.

1       6. (Canceled)

1       7. (Previously amended) The brake controller system according to claim 1 wherein:  
2               said brake control unit is located within the towing vehicle.

1       8. (Original) The brake controller system according to claim 1 wherein:  
2               said bus communicates said CPU with brake lights on said towing vehicle.

1       9. (Canceled)

1       10. (Original) The brake controller system according to claim 1 wherein:  
2               said bus is a brake wire that receives multiplexed signals.

1        11. (Previously amended) The brake controller system according to claim 1 further  
2 comprising:

3                an alpha numeric display on a front face of said brake controller unit and in  
4 communication with said CPU for use as a visual indicator to an operator.

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v* 1        12. (Original) The brake controller system according to claim 1 further comprising:

2                a control panel on said brake controller unit comprising an adjust selection display  
3 down button, and adjust selection display up button, an enter selection displayed button and a  
4 scroll menu button.

1        13. (Previously amended) The brake controller system according to claim 1 further  
2 comprising:

3                a sliding brake switch on brake controller unit for manually and variably  
4 operating said brakes.

1        14. (Previously amended) A method for operating a brake controller system comprising:

2                receiving, by a CPU, a pressure signal indicating an amount of pressure in a  
3 master brake cylinder of a towing vehicle;

4                signaling a voltage booster, by said CPU, to supply additional voltage above a  
5 towing vehicle standard voltage; and

6                actuating the towed vehicle brakes.

1        15. (Previously amended) A method for operating a brake controller system for a towed  
2        vehicle comprising:

3                sensing brake fluid pressure within a towing vehicle's master brake cylinder;

4                sensing current in an electric brake system on said towed vehicle;

5                calculating with a brake controller unit the appropriate amount of brake force to  
6        be applied by a brake activator;

7                determining, by said CPU, whether a voltage booster is required to supply  
8        additional voltage to said towed vehicle's electric brake system;

9                actuating said towed vehicle's electric brakes without actuating said towing  
10      vehicle brakes by use of a manual thumb brake switch;

11               generating a signal from said brake controller unit that is based upon and  
12      directly proportional to a linear position of the manual thumb brake switch; and

13               activating said brake activator with said signal; and

14               applying an appropriate amount of brake force with an appropriate amount of  
15      voltage as directed by said brake controller unit.

1        16. (Previously amended) The method for operating a brake controller system according  
2        to claim 15 further comprising:

3                signaling brake lights and a brake activator with said brake controller unit over a  
4        brake line by multiplexing signals over said brake line.

1        17. (Canceled)

1        18. (Original) The method for operating a brake controller system according to claim 15  
2        further comprising the steps of:

3                storing data within a CPU of said brake controller system;  
4                displaying at least a portion of said data with an alphanumeric display as a visual  
5        indicator to the vehicle operator during operation of the brake controller;  
6                wherein said data is selected from a group comprising: Brake Gain; Time; Date;  
7        Last Maximum Brake; Last Maximum Stroke; Last Test: Maximum Brake; Last Test: Maximum  
8        Stroke; Truck Control: Serial Number; Truck Control: Date Manufactured; Truck Control; Born  
9        on Date; Trailer Control: Serial Number; Trailer Control: Date Manufactured; Trailer Control:  
10      Born on Date; Run Diagnostic: Test Brakes.

1        19. (Previously amended) A trailer brake system comprising:

2                a master brake fluid pressure sensor for measuring a brake fluid pressure of a  
3        brake system in a towing vehicle and for providing a brake fluid pressure signal;  
4                a brake controller for controlling a brake activator, said brake activator being for  
5        activating a trailer brake, said brake controller comprising a CPU for receiving said brake fluid  
6        pressure signal and for generating a signal for said brake activator so that said trailer brake is  
7        activated with a force related to said brake fluid pressure signal.

1           20. (Previously added) The trailer brake system of claim 19, further comprising:  
2                   a finger control for actuating said trailer brake system without actuating said  
3                   brake system of said towing vehicle, said finger control being electrically connected to said CPU,  
4                   said finger control generating a braking signal based on a movement or position of said finger  
5                   control.

1           21. (Previously amended) The brake controller system of claim 19, further comprising:  
2                   an alpha numeric display connected to said CPU for displaying trailer brake  
3                   related information to user during operation of said trailer brake system, said trailer brake related  
4                   information being at least one of Brake Gain; Time; Date; Last Maximum Brake; Last  
5                   Maximum Stroke; Last Test: Maximum Brake; Last Test: Maximum Stroke; Truck Control:  
6                   Serial Number; Truck Control: Date Manufactured; Truck Control; Born on Date; Trailer  
7                   Control: Serial Number; Trailer Control: Date Manufactured; Trailer Control: Born on Date; and  
8                   Run Diagnostic: Test Brakes.

1           22. (Previously added) A trailer brake system comprising:  
2                   a master brake fluid pressure sensor for measuring a brake fluid pressure of a  
3                   brake system in a towing vehicle and for providing a brake fluid pressure signal;  
4                   a brake controller for controlling a brake activator, said brake activator being for  
5                   activating a trailer brake, said brake controller comprising a logic unit for receiving said brake  
6                   fluid pressure signal and for generating a signal for said brake activator so that said trailer brake  
7                   is activated with a force related to said brake fluid pressure signal; and

8 a voltage booster capable of receiving a signal from said logic unit and supplying  
9 an additional voltage above a towing vehicle standard voltage to said brake actuator.

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